



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 5 CHICAGO REGIONAL LABORATORY  
536 SOUTH CLARK STREET  
CHICAGO, ILLINOIS 60605

US EPA RECORDS CENTER REGION 5



411674

Date: 1/24/2011

Subject: Review of Region 5 Data for Chemetco Superfund Site

From: Laurence Wong, Analyst *LW*  
Region 5 Chicago Regional Laboratory

To: Superfund, US EPA Region 5  
77 West Jackson Boulevard  
Chicago, IL 60604

The data being transmitted under this cover memo successfully passed CRL's internal data review procedures as documented in our current Quality Management Plan (QMP) and appropriate Standard Operating Procedures (SOPs). Please be aware that CRL does not perform data validation which is based on your data quality objectives. This function must be performed independently of the laboratory generating the data.

Results in this report represent only the samples analyzed.

Please have the U S EPA Project Manager/Officer call the CRL Sample Coordinator at (312) 353-7444 for any comments or questions.

Attached are Results for: Chemetco Superfund Site

*Sylvia Griffin*

JAN 25 2011

Data Management Coordinator and Date Received

JAN 25 2011

Date Transmitted: \_\_\_\_/\_\_\_\_/\_\_\_\_

Analyses included in this report:

Solids, TSS



Environmental Protection Agency Region 5  
**Chicago Regional Laboratory**

536 South Clark Street, Chicago, IL 60605  
Phone:(312)353-8370 Fax:(312)886-2591

Superfund, US EPA Region 5  
77 West Jackson Boulevard  
Chicago IL, 60604

Project: Chemetco Superfund Site  
Project Number: [none]  
Project Manager: Betty Lavis

**Reported:**  
Jan-24-11 12 57

## ANALYSIS CASE NARRATIVE

Analyst Phone number: 312-353-8418

### General Information

A Work Order #1101011 was received on 01/14/2011 One of the required analyses was Total Suspended Solids (TSS). The sample holding time limit was met.

### Sample Analysis and Results

The sample preparation and analysis were performed on 01/19/11, following testing procedure CRL SOP AIG018, Revision No.3 4 (Standard Methods 2540 D).

### Quality Control

All quality control (QC) audits followed CRL guidelines The required quality control criteria for the laboratory, method, and system performance audits were evaluated and determined to be within the CRL's QC limits

Signature

*Laurence Wong*

Date

*Jan. 24<sup>th</sup> 2011*



Environmental Protection Agency Region 5  
**Chicago Regional Laboratory**

536 South Clark Street, Chicago, IL 60605  
Phone: (312) 353-8370 Fax: (312) 886-2591

**WORK ORDER**

Printed: 1/14/2011 5:35:06PM

**1101011**

**US EPA Region 5 Chicago Regional Laboratory**

**Client:** Superfund, US EPA Region 5  
**Project:** Chemetco Superfund Site

**Project Manager:** George Schupp  
**Project Number:** [none]

**Report To:**

Betty Lavis  
Superfund, US EPA Region 5

77 West Jackson Boulevard  
Chicago, IL 60604

Phone: (312) 886-7183  
Fax: (312) 886-6171

Date Due Apr-16-11 15 00 (90 day TAT)

Received By Robert Snyder

Date Received Jan-14-11 08:30

Logged In By Robert Snyder

Date Logged In Jan-14-11 11:24

**Samples Received at**

Sample tags/labels	Yes
Seals Intact	Yes
Received on ice	Yes
Paperwork Included	Yes

is	Due	TAT	Expires	Comments
----	-----	-----	---------	----------

**1101011-01 CW-4 [Water] Sampled Jan-12-11 15:37 Central**

TKN DA	Feb-14-11 12 00	30	Feb-09-11 15 37
Ammonia N DA	Feb-14-11 12 00	30	Feb-09-11 15 37
Solids, TSS	Feb-14-11 12:00	30	Jan-19-11 15 37
O&G by SPE	Feb-14-11 12 00	30	Feb-09-11 15 37
COD	Feb-14-11 12 00	30	Feb-09-11 15 37
BOD	Feb-14-11 12 00	30	Jan-14-11 15 37



Environmental Protection Agency Region 5  
**Chicago Regional Laboratory**

536 South Clark Street, Chicago, IL 60605  
Phone (312)353-8370 Fax:(312)886-2591

Superfund, US EPA Region 5  
77 West Jackson Boulevard  
Chicago IL, 60604

Project Chemetco Superfund Site  
Project Number [none]  
Project Manager Betty Lavis

Reported:  
Jan-24-11 12 57

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
CW-4	1101011-01	Water	Jan-12-11 15 37	Jan-14-11 08 30

**Total Suspended Solids, SM 2540 D (modified)**  
**US EPA Region 5 Chicago Regional Laboratory**

CW-4 (1101011-01) Water Sampled: Jan-12-11 15:37 Received: Jan-14-11 08:30

Analyte	Result	Flags / Qualifiers	MDL	Limit	Units	Dilution	Batch	Prepared	Analyzed
Total Suspended Solids	20			5	mg/L	1	B101021	Jan-14-11	Jan-19-11



Environmental Protection Agency Region 5  
**Chicago Regional Laboratory**

536 South Clark Street, Chicago, IL 60605  
Phone: (312) 353-8370 Fax: (312) 886-2591

Superfund, US EPA Region 5  
77 West Jackson Boulevard  
Chicago IL, 60604

Project: Chemetco Superfund Site  
Project Number: [none]  
Project Manager: Betty Lavis

**Reported:**  
Jan-24-11 12:57

**Notes and Definitions**

U Not Detected  
NR Not Reported

Items for Project Manager Review

LabNumber	Analysis	Analyte	Exception
	Solids, TSS	(Water)	Default Report (not modified) VERSION 6 06 2020 Special Units (mg/L)

Sample, Log and Extraction Comments



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 5 CHICAGO REGIONAL LABORATORY  
536 SOUTH CLARK STREET  
CHICAGO, ILLINOIS 60605

1/23  
1/27/11

Date: 1/27/2011

Subject: Review of Region 5 Data for Chemetco Superfund Site

From: Danita Larry, Analyst *DL*  
Region 5 Chicago Regional Laboratory

To: Superfund, US EPA Region 5  
77 West Jackson Boulevard  
Chicago, IL 60604

The data being transmitted under this cover memo successfully passed CRL's internal data review procedures as documented in our current Quality Management Plan (QMP) and appropriate Standard Operating Procedures (SOPs). Please be aware that CRL does not perform data validation which is based on your data quality objectives. This function must be performed independently of the laboratory generating the data.

Results in this report represent only the samples analyzed.

Please have the U.S. EPA Project Manager/Officer call the CRL Sample Coordinator at (312) 353-7444 for any comments or questions.

Attached are Results for: Chemetco Superfund Site

*Sylvia Griffin*  
Data Management Coordinator and Date Received

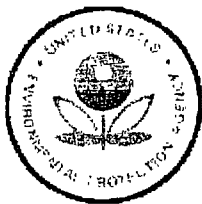
JAN 27 2011

Date Transmitted: JAN 27, 2011

Analyses included in this report:

O&G by SPE





Environmental Protection Agency Region 5  
**Chicago Regional Laboratory**

536 South Clark Street, Chicago, IL 60605  
Phone: (312) 353-8370 Fax: (312) 886-2591

Superfund, US EPA Region 5  
77 West Jackson Boulevard  
Chicago IL, 60604

Project: Chemetco Superfund Site  
Project Number [none]  
Project Manager: Betty Lavis

**Reported:**  
Jan-27-11 11 02

**ANALYSIS CASE NARRATIVE**  
Analyst Phone Number: 312-353-1161

**GENERAL INFORMATION:**

One (1) water sample was received at the Chicago Regional Laboratory on January 14, 2011 and analyzed for O&G by SPE on January 19, 2011. Analyses holding times were met. Other pertinent information is provided in the final report.

**SAMPLE ANALYSIS:**

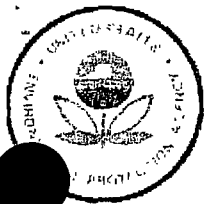
The samples, and associated QC samples, were analyzed for Oil and Grease by SPE in water using CRL Standard Operating Procedure (SOP) GC030: Rev 6 (Standard Method 1664). Samples were stored in locked refrigerator and/or cabinet at all times, except when in use.

Please see the LIMS report for complete results.

**QUALITY CONTROL (QC):**

All required quality control criteria for the laboratory, method, and system performance audits was evaluated and determined to be within CRL's QC limits.

D2  
Danita Larry, Analyst



Environmental Protection Agency Region 5  
**Chicago Regional Laboratory**

536 South Clark Street, Chicago, IL 60605  
Phone (312) 353-8370 Fax (312) 886-2591

Superfund, US EPA Region 5  
77 West Jackson Boulevard  
Chicago IL, 60604

Project Chemetco Superfund Site  
Project Number [none]  
Project Manager Betty Lavis

Reported:  
Jan-27-11 11 02

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
CW-4	1101011-01	Water	Jan-12-11 15 37	Jan-14-11 08 30

**Oil and Grease by Gravimetric Analyses, EPA 1664 (modified)**

**US EPA Region 5 Chicago Regional Laboratory**

CW-4 (1101011-01) Water Sampled: Jan-12-11 15:37 Received: Jan-14-11 08:30

Analyte	Result	Flags / Qualifiers	MDL	Limit	Units	Dilution	Batch	Prepared	Analyzed
Oil & Grease	127		0.900	1.80	mg/L	1	B101027	Jan-19-11	Jan-19-11

  
Danita Larry, Analyst



Environmental Protection Agency Region 5  
**Chicago Regional Laboratory**

536 South Clark Street, Chicago, IL 60605  
Phone:(312)353-8370 Fax:(312)886-2591

Superfund, US EPA Region 5  
77 West Jackson Boulevard  
Chicago IL, 60604

Project: Chemetco Superfund Site  
Project Number: [none]  
Project Manager: Betty Lavis

**Reported:**  
Jan-27-11 11:02

**Notes and Definitions**

U Not Detected

NR Not Reported

  
\_\_\_\_\_  
Danita Larry, Analyst



Environmental Protection Agency Region 5  
**Chicago Regional Laboratory**

536 South Clark Street, Chicago, IL 60605  
Phone:(312)353-8370 Fax:(312)886-2591

**WORK ORDER**

Printed: 1/19/2011 8:56:37AM

**1101011**

**US EPA Region 5 Chicago Regional Laboratory**

**Client:** Superfund, US EPA Region 5  
**Project:** Chemetco Superfund Site

**Project Manager:** George Schupp  
**Project Number:** [none]

**Report To:**

Betty Lavis  
Superfund, US EPA Region 5

77 West Jackson Boulevard  
Chicago, IL 60604

Phone (312) 886-7183  
Fax. (312) 886-6171

Date Due Apr-16-11 15:00 (90 day TAT)

Received By Robert Snyder

Date Received Jan-14-11 08.30

Logged In By Robert Snyder

Date Logged In Jan-14-11 11.24

**Samples Received at**

Sample tags/labels Yes  
Seals Intact Yes  
Received on ice Yes  
Paperwork Included Yes

Analysis	Due	TAT	Expires	Comments
<b>1101011-01 CW-4 [Water] Sampled Jan-12-11 15:37 Central</b>				
TKN DA	Feb-14-11 12:00	30	Feb-09-11 15:37	
Ammonia N DA	Feb-14-11 12:00	30	Feb-09-11 15:37	
Solids, TSS	Feb-14-11 12:00	30	Jan-19-11 15:37	
O&G by SPE	Feb-14-11 12:00	30	Feb-09-11 15:37	
COD	Feb-14-11 12:00	30	Feb-09-11 15:37	
BOD	Feb-14-11 12:00	30	Jan-14-11 15:37	



02-04-2011

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5 CENTRAL REGIONAL LABORATORY

536 SOUTH CLARK STREET

CHICAGO, ILLINOIS 60605

Date:

Subject: Review of Region 5 Data for **Chemetco**

From: **Paul Little, Chemist, TechLaw Inc. / ESAT**  
Contractor to Region 5 Central Regional Laboratory  
Submitted to CRL on 2/1/11 *Paul Little*

To:

Attached are the results for: **Chemetco**

CRL data set number(s): **E110101**

Samples analyzed for: **ICP-MS Total Metals in Wipes**

Results are reported for sample designations: **E110101-01 thru -03**

*Sylvia Griffin*  
Data Management Coordinator and Date Received

02 4-2011 /

02-04-2011

Date Transmitted: \_\_\_\_ / \_\_\_\_ / \_\_\_\_

Please have the U.S. EPA Project Manager/Officer call the CRL Sample Coordinator at 3-7444 for any comments or questions.

Please sign and date this form below and return it with any comments to:

Sylvia Griffin  
Data Management Coordinator  
Region 5 Central Regional Laboratory  
ML-10C

*Ryan M. Lutz* 03/11/2011  
Received by and Date

Comments:

Attached are the results for: **Chemetco**

CRL data set number(s): **E110101**

Samples analyzed for: **ICP-MS Total Metals in Wipes**

Results are reported for sample designations: **E110101-01 thru -03**

**Method: 200.8 (ICP-MS Metals)****Site: Chemetco****Date: January 27, 2011****Prepared by: Paul Little****TDF: R5-213-059****TechLaw Job #: 03037.3.13.02.01.B5HB.000.059****Task Order #: R5-2-213****Data Set(s): E110101****NARRATIVE**

Three (3) wipe samples from the Chemetco Site were collected on January 11-13, 2011 and were received at CRL on January 14, 2011. The samples were submitted to ESAT for analysis of total metals by ICP. The sample point identifications are on the first page of the LIMS report following this narrative.

The samples were digested following standard CRL 3050B hot block digestion protocols (CRL SOP METALS034) on January 24, 2011 (LIMS digestion batch EA12002). No matrix spike or matrix duplicate were performed. They were analyzed on January 26, 2011 according to CRL SOP METALS001 using the PE ELAN DRC ICP-MS. The data was evaluated using recently evaluated ESAT MDL values. ESAT has been instructed to report samples results to CRQL levels used in ISM01.2.

The following analytes will be addressed in this case narrative:

As, Cd, Pb, Sb, Se, Tl

**Blanks:**

EA12002-BLK1	As75	0.682 µg/L
--------------	------	------------

Blank qualification: Sample results to 10 times the absolute blank value are qualified. Instrument Blank results bracketing sample results are used for qualification. Preparation blank results are used for qualifying all sample results within that digestion batch.

CRI Check Soln: Presently no control actions are associated with the CRI analyte values determined during the analysis run. The CRI sample is at the lowest calibration point.

**Blank Spikes:**

EA12002-BS1:	Se82	71.5% recovery
EA12002-BSD1:	Se82	71.0% recovery

**Serial Dilution:**

EA12002-SRD1:	Pb208	No results qualified per SOP
---------------	-------	------------------------------

**Sample element qualifications:**

Control limits from SOP METALS004 are used to determine acceptability of results. ESAT data are tracked in control charts to show that ESAT results conform with SOP requirements.

For As, the preparation blank (EA12002-BLK1) had a value above the MDL indicating possible contamination. Sample results for E110101-01 thru -03 are flagged "K" in LIMS. The As sample results for 0101-01 and -03 are between the MDL and CRQL. The As results for those samples are flagged "J" in LIMS.

For Cd, the sample results for E110101-01 thru -03 are between the MDL and CRQL. The Cd results for those samples are flagged "J" in LIMS.

For Se, the blank spike and BSD were less than the lower ESAT limit indicating a possible low bias. All sample results are below the MDL; only EA12002-BS1 and -BSD1 are flagged "L" in LIMS.

**All flagged results are considered estimated.**

**Other comments**

No samples are identified as field duplicates. Sample E110101-03 was identified as a field blank. As, Cd, Pb, and Sb were detected in the field blank. ESAT does not qualify sample results for field duplicates or field blanks.

It has been observed that, due to differences in the significant figures used for calculation, RPD values and some matrix spike recoveries calculated by LIMS are not correct. Some of these values are reported by LIMS as being outside QC requirements when they are not. The correct values are included as Excel spreadsheets in the Analytical/Matrix QC Summary Report provided in the data package.



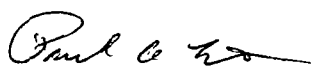
Superfund, US EPA Region 5  
77 West Jackson Boulevard  
Chicago IL, 60604

Project: Chemetco  
Project Number: [none]  
Project Manager: Chi Tang

Reported:  
Jan-31-11 11:01

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
OS-3	E110101-01	Wipe	Jan-11-11 16:31	Jan-14-11 14:00
OS-4	E110101-02	Wipe	Jan-11-11 16:43	Jan-14-11 14:00
OS-FB	E110101-03	Wipe	Jan-13-11 18:00	Jan-14-11 14:00

  
Paul Little, Chemist

Report Name: E110101 FINAL Jan 31 11 1101

Page 1 of 3

Superfund, US EPA Region 5  
77 West Jackson Boulevard  
Chicago IL, 60604

Project: Chemetco  
Project Number: [none]  
Project Manager: Chi Tang

Reported:  
Jan-31-11 11:01

### Metals by ICP-MS EPA 6020 (modified)

#### TechLaw - ESAT Contract

OS-3 (E110101-01) Wipe Sampled: Jan-11-11 16:31 Received: Jan-14-11 14:00

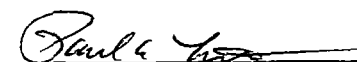
Analyte	Result	Flags / Qualifiers	MDL	Limit	Units	Dilution	Batch	Prepared	Analyzed
Antimony	13.8		0.0625	1.25	ug/wipe	5	EA12002	Jan-24-11	Jan-26-11
Arsenic	0.491	J, K	0.125	0.625	"	"	"	"	"
Cadmium	0.314	J	0.0250	0.625	"	"	"	"	"
Lead	11.3		0.0250	0.625	"	"	"	"	"
Selenium	U		0.125	3.12	"	"	"	"	"
Thallium	U		0.0250	0.625	"	"	"	"	"

OS-4 (E110101-02) Wipe Sampled: Jan-11-11 16:43 Received: Jan-14-11 14:00

Analyte	Result	Flags / Qualifiers	MDL	Limit	Units	Dilution	Batch	Prepared	Analyzed
Antimony	17.0		0.0625	1.25	ug/wipe	5	EA12002	Jan-24-11	Jan-26-11
Arsenic	0.717	K	0.125	0.625	"	"	"	"	"
Cadmium	0.261	J	0.0250	0.625	"	"	"	"	"
Lead	10.8		0.0250	0.625	"	"	"	"	"
Selenium	U		0.125	3.12	"	"	"	"	"
Thallium	U		0.0250	0.625	"	"	"	"	"

OS-FB (E110101-03) Wipe Sampled: Jan-13-11 18:00 Received: Jan-14-11 14:00

Analyte	Result	Flags / Qualifiers	MDL	Limit	Units	Dilution	Batch	Prepared	Analyzed
Antimony	7.82		0.0625	1.25	ug/wipe	5	EA12002	Jan-24-11	Jan-26-11
Arsenic	0.401	J, K	0.125	0.625	"	"	"	"	"
Cadmium	0.130	J	0.0250	0.625	"	"	"	"	"
Lead	2.37		0.0250	0.625	"	"	"	"	"
Selenium	U		0.125	3.12	"	"	"	"	"
Thallium	U		0.0250	0.625	"	"	"	"	"

  
Paul Little, Chemist

Report Name: E110101 FINAL Jan 31 11 1101

Page 2 of 3


Superfund, US EPA Region 5  
77 West Jackson Boulevard  
Chicago IL, 60604

Project: Chemetco  
Project Number: [none]  
Project Manager: Chi Tang

**Reported:**  
Jan-31-11 11:01

### Notes and Definitions

- L The identification of the analyte is acceptable, the reported value may be biased low. The actual value is expected to be greater than the reported value.
- K The identification of the analyte is acceptable; the reported value may be biased high. The actual value is expected to be less than the reported value.
- J The identification of the analyte is acceptable; the reported value is an estimate.
- U Not Detected
- NR Not Reported



1/31/11  
Paul Little, Chemist

Report Name: E110101 FINAL Jan 31 11 1101

Page 3 of 3



105 W. Madison Street Suite 400  
Chicago, IL 60602  
(312) 345-8890  
(312) 345-8879 Fax  
[www.techlaw.com](http://www.techlaw.com)

# WORK ORDER

Printed: 1/27/2011 11:21:13AM

**E110101**

## TechLaw - ESAT Contract

**Client:** Superfund, US EPA Region 5

**Project:** Chemetco

**Project Manager:** James D. Burden

**Project Number:** [none]

### Report To:

Chi Tang  
Superfund, US EPA Region 5

77 West Jackson Boulevard  
Chicago, IL 60604

Phone: (312) 353-2310  
Fax: (312) 886-6171

**Date Due:** Feb-14-11 15:00 (30 day TAT)

**Received By:** Paul Little

**Date Received:** Jan-14-11 14:00

**Logged In By:** Stephen Connet

**Date Logged In:** Jan-18-11 09:10

**Samples Received at:** 4.2°C  
**Custody Seals:** Yes  
**Containers Intact:** Yes  
**COC/Labels Agree:** Yes  
**Preservation Confirmed:** Yes

Analysis	Due	TAT	Expires	Comments
----------	-----	-----	---------	----------

### E110101-01 OS-3 [Wipe] Sampled Jan-11-11 16:31 Central

Hg Total CVAA (wipe)	Feb-12-11 12:00	28	Feb-08-11 16:31
Cyanide, Total (wipe)	Feb-14-11 12:00	30	Jan-25-11 16:31
Metals ICP-MS (wipe)	Feb-14-11 12:00	30	Jan-11-12 16:31
Metals ICP (wipe)	Feb-14-11 12:00	30	Jan-11-12 16:31

### E110101-02 OS-4 [Wipe] Sampled Jan-11-11 16:43 Central

Hg Total CVAA (wipe)	Feb-12-11 12:00	28	Feb-08-11 16:43
Cyanide, Total (wipe)	Feb-14-11 12:00	30	Jan-25-11 16:43
Metals ICP-MS (wipe)	Feb-14-11 12:00	30	Jan-11-12 16:43
Metals ICP (wipe)	Feb-14-11 12:00	30	Jan-11-12 16:43

### E110101-03 OS-FB [Wipe] Sampled Jan-13-11 18:00 Central

Field Blank

Hg Total CVAA (wipe)	Feb-12-11 12:00	28	Feb-10-11 18:00
Cyanide, Total (wipe)	Feb-14-11 12:00	30	Jan-27-11 18:00
Metals ICP-MS (wipe)	Feb-14-11 12:00	30	Jan-13-12 18:00
Metals ICP (wipe)	Feb-14-11 12:00	30	Jan-13-12 18:00

Reviewed By

Date

Page 1 of 1



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 5 CHICAGO REGIONAL LABORATORY  
536 SOUTH CLARK STREET  
CHICAGO, ILLINOIS 60605

Date: 2/10/2011  
Subject: Review of Region 5 Data for Chemetco Superfund Site  
From: Nidia Fuentes, Analyst *NF*  
Region 5 Chicago Regional Laboratory  
To: Superfund, US EPA Region 5  
77 West Jackson Boulevard  
Chicago, IL 60604

The data being transmitted under this cover memo successfully passed CRL's internal data review procedures as documented in our current Quality Management Plan (QMP) and appropriate Standard Operating Procedures (SOPs). Please be aware that CRL does not perform data validation which is based on your data quality objectives. This function must be performed independently of the laboratory generating the data.

Results in this report represent only the samples analyzed.

Please have the U.S. EPA Project Manager/Officer call the CRL Sample Coordinator at (312) 353-7444 for any comments or questions.

Attached are Results for: Chemetco Superfund Site

*Sylvia Griffin*

02-11-2011 / /

Data Management/Coordinator and Date Received

Date Transmitted: 02-11-2011 / /

Analyses included in this report:

Ammonia N DA

TKN DA



Environmental Protection Agency Region 5  
**Chicago Regional Laboratory**

536 South Clark Street, Chicago, IL 60605  
Phone:(312)353-8370 Fax:(312)886-2591

Superfund, US EPA Region 5  
77 West Jackson Boulevard  
Chicago IL, 60604

Project Chemetco Superfund Site  
Project Number [none]  
Project Manager Betty Lavis

Reported:  
Feb-10-11 14 49

## ANALYSIS CASE NARRATIVE

**312-353-9079**

### General Information

One water sample to be analyzed for ammonia nitrogen was received on January 14, 2011. All holding times were met.

### Sample Analysis and Results

The sample was analyzed for ammonia nitrogen in water using CRL SOP AIG029A, Revision # 1.1, (EPA method 350.1).

### Quality Control

All quality control audits were within the CRL's limits.

## ANALYSIS CASE NARRATIVE

**312-353-9079**

### General Information

One water sample to be analyzed for Total Kjeldahl Nitrogen (TKN) was received on January 14, 2011 at the Chicago Regional Laboratory. All holding times were met.

### Sample Analysis and Results

The water sample for TKN was digested and analyzed on 02/07/11. The sample was analyzed using CRL SOP AIG035A (Rev. # 2.3 ) EPA method 351.2.

### Quality Control

Nidia Fuentes, Analyst



Environmental Protection Agency Region 5  
**Chicago Regional Laboratory**

536 South Clark Street, Chicago, IL 60605  
Phone.(312)353-8370 Fax (312)886-2591

Superfund, US EPA Region 5  
77 West Jackson Boulevard  
Chicago IL, 60604

Project Chemetco Superfund Site  
Project Number [none]  
Project Manager Betty Lavis

**Reported:**  
Feb-10-11 14 49

All quality control audits were within the CRL limits.

Nidia Fuentes, Analyst



Environmental Protection Agency Region 5  
**Chicago Regional Laboratory**

536 South Clark Street, Chicago, IL 60605  
Phone:(312)353-8370 Fax:(312)886-2591

Superfund, US EPA Region 5  
77 West Jackson Boulevard  
Chicago IL, 60604

Project: Chemetco Superfund Site  
Project Number [none]  
Project Manager Betty Lavis

**Reported:**  
Feb-10-11 14 49

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
CW-4	1101011-01	Water	Jan-12-11 15 37	Jan-14-11 08:30

Nidia Fuentes, Analyst





Environmental Protection Agency Region 5  
**Chicago Regional Laboratory**

536 South Clark Street, Chicago, IL 60605  
Phone: (312) 353-8370 Fax: (312) 886-2591

Superfund, US EPA Region 5  
77 West Jackson Boulevard  
Chicago IL, 60604

Project Chemetco Superfund Site  
Project Number [none]  
Project Manager Betty Lavis

**Reported:**  
Feb-10-11 14:49

**Ammonia Nitrogen, Colorimetric, EPA 350.1 (modified)**

**US EPA Region 5 Chicago Regional Laboratory**

CW-4 (1101011-01) Water Sampled: Jan-12-11 15:37 Received: Jan-14-11 08:30

Analyte	Result	Flags / Qualifiers	MDL	Limit	Units	Dilution	Batch	Prepared	Analyzed
Ammonia as N	0.456		0.05	0.100	mg/L	1	B102004	Feb-04-11	Feb-04-11

Nidia Fuentes, Analyst



Environmental Protection Agency Region 5  
**Chicago Regional Laboratory**

536 South Clark Street, Chicago, IL 60605  
Phone:(312)353-8370 Fax:(312)886-2591

Superfund, US EPA Region 5  
77 West Jackson Boulevard  
Chicago IL, 60604

Project: Chemetco Superfund Site  
Project Number [none]  
Project Manager Betty Lavis

**Reported:**  
Feb-10-11 14 49

**Total Kjeldahl Nitrogen, EPA 351.2 (modified)**  
**US EPA Region 5 Chicago Regional Laboratory**

CW-4 (1101011-01) Water Sampled: Jan-12-11 15:37 Received: Jan-14-11 08:30

Analyte	Result	Flags / Qualifiers	MDL	Limit	Units	Dilution	Batch	Prepared	Analyzed
Total Kjeldahl Nitrogen	1.23		0.30	0.50	mg/L	1	B102005	Feb-07-11	Feb-07-11

Nidia Fuentes, Analyst



Environmental Protection Agency Region 5  
**Chicago Regional Laboratory**

536 South Clark Street, Chicago, IL 60605  
Phone (312)353-8370 Fax (312)886-2591

Superfund, US EPA Region 5  
77 West Jackson Boulevard  
Chicago IL, 60604

Project Chemetco Superfund Site  
Project Number [none]  
Project Manager Betty Lavis

**Reported**  
Feb-10-11 14 49

**Notes and Definitions**

J The identification of the analyte is acceptable, the reported value is an estimate  
\* This Quality Control measure meets the requirements of the CRL SOP for this analyte  
U Not Detected  
NR Not Reported

Nidia Fuentes, Analyst

## Items for Project Manager Review

LabNumber	Analysis	Analyte	Exception
			Default Report (not modified)
			VERSION 6 07 2003
	Ammonia N DA	(Water)	J-Flags used
	Ammonia N DA	(Water)	Result calculations based on MDL
	Ammonia N DA	(Water)	Special Units (mg/L)
	TKN DA	(Water)	J-Flags used
	TKN DA	(Water)	Result calculations based on MDL
	TKN DA	(Water)	RPD calculations based on %Recovery
	TKN DA	(Water)	Special Units (mg/L)
B102004-BLK1	Ammonia N DA	Ammonia as N	* This Quality Control measure meets the requirements of the CRL SOP for this analyte
B102004-BLK1	Ammonia N DA	Ammonia as N	Blank >1 x MDL





UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 5 CHICAGO REGIONAL LABORATORY  
536 SOUTH CLARK STREET  
CHICAGO, ILLINOIS 60605

Date: 2/10/2011  
Subject: Review of Region 5 Data for Chemetco Superfund Site  
From: Francis Awanya, Group Lead *FAP*  
Region 5 Chicago Regional Laboratory  
To: Superfund, US EPA Region 5  
77 West Jackson Boulevard  
Chicago, IL 60604

The data being transmitted under this cover memo successfully passed CRL's internal data review procedures as documented in our current Quality Management Plan (QMP) and appropriate Standard Operating Procedures (SOPs). Please be aware that CRL does not perform data validation which is based on your data quality objectives. This function must be performed independently of the laboratory generating the data.

Results in this report represent only the samples analyzed.

Please have the U.S. EPA Project Manager/Officer call the CRL Sample Coordinator at (312) 353-7444 for any comments or questions.

Attached are Results for: Chemetco Superfund Site

*Sylvia Guppin*

02-11-2011 /

Data Management Coordinator and Date Received

Date Transmitted. 02-11-2011

Analyses included in this report:

BOD



Environmental Protection Agency Region 5  
**Chicago Regional Laboratory**

536 South Clark Street, Chicago, IL 60605  
Phone:(312)353-8370 Fax:(312)886-2591

Superfund, US EPA Region 5  
77 West Jackson Boulevard  
Chicago IL, 60604

Project Chemetco Superfund Site  
Project Number [none]  
Project Manager Betty Lavis

Reported:  
Feb-10-11 09 05

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
CW-4	1101011-01	Water	Jan-12-11 15 37	Jan-14-11 08 30

**BOD, 5 day, EPA 405.1 (modified)**

**US EPA Region 5 Chicago Regional Laboratory**

CW-4 (1101011-01) Water Sampled: Jan-12-11 15:37 Received: Jan-14-11 08:30

Analyte	Result	Flags / Qualifiers	MDL	Limit	Units	Dilution	Batch	Prepared	Analyzed
Biochemical Oxygen Demand	4.7	J	2.0	2.0	mg/L	1	B101020	Jan-14-11	Jan-14-11

FAR 2/10/2011

Francis Awanya, Group Leader

### Items for Project Manager Review

LabNumber	Analysis	Analyte	Exception
			Default Report (not modified)
			VERSION 6 07 2003
	BOD	(Water)	Result calculations based on MDL
	BOD	(Water)	Special Units (mg/L)

FAT 2/10/2011





Environmental Protection Agency Region 5  
**Chicago Regional Laboratory**

536 South Clark Street, Chicago, IL 60605  
Phone:(312)353-8370 Fax:(312)886-2591

**WORK ORDER**

Printed: 2/7/2011 12:49:49PM

**1101011**

**US EPA Region 5 Chicago Regional Laboratory**

**Client:** Superfund, US EPA Region 5  
**Project:** Chemetco Superfund Site

**Project Manager:** George Schupp  
**Project Number:** [none]

**Report To:**

Betty Lavis  
Superfund, US EPA Region 5

77 West Jackson Boulevard  
Chicago, IL 60604

Phone (312) 886-7183  
Fax: (312) 886-6171

Date Due Apr-16-11 15:00 (90 day TAT)

Received By Robert Snyder

Date Received Jan-14-11 08:30

Logged In By Robert Snyder

Date Logged In Jan-14-11 11:24

**Samples Received at**

Sample tags/labels Yes  
Seals Intact Yes  
Received on ice Yes  
Paperwork Included Yes

Analysis	Due	TAT	Expires	Comments
<b>1101011-01 CW-4 [Water] Sampled Jan-12-11 15:37 Central</b>				
TKN DA	Feb-14-11 12:00	30	Feb-09-11 15:37	
Ammonia N DA	Feb-14-11 12:00	30	Feb-09-11 15:37	
Solids, TSS	Feb-14-11 12:00	30	Jan-19-11 15:37	
O&G by SPE	Feb-14-11 12:00	30	Feb-09-11 15:37	
COD	Feb-14-11 12:00	30	Feb-09-11 15:37	
BOD	Feb-14-11 12:00	30	Jan-14-11 15:37	



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5 CHICAGO REGIONAL LABORATORY

536 SOUTH CLARK STREET

CHICAGO, ILLINOIS 60605

Date: 2/11/2011

Subject: Review of Region 5 Data for Chemetco Superfund Site

From: Anna Aleszczyk, Chemist *AA 2-11-11*  
Region 5 Chicago Regional Laboratory

To: Superfund, US EPA Region 5  
77 West Jackson Boulevard  
Chicago, IL 60604

The data being transmitted under this cover memo successfully passed CRL's internal data review procedures as documented in our current Quality Management Plan (QMP) and appropriate Standard Operating Procedures (SOPs). Please be aware that CRL does not perform data validation which is based on your data quality objectives. This function must be performed independently of the laboratory generating the data

Results in this report represent only the samples analyzed.

Please have the U.S. EPA Project Manager/Officer call the CRL Sample Coordinator at (312) 353-7444 for any comments or questions

Attached are Results for: Chemetco Superfund Site

*[Signature]*

Data Management Coordinator and Date Received

*2/11/11*

Date Transmitted: *2/14/11*

Analyses included in this report:

COD



Environmental Protection Agency Region 5  
**Chicago Regional Laboratory**

536 South Clark Street, Chicago, IL 60605  
Phone:(312)353-8370 Fax:(312)886-2591

Superfund, US EPA Region 5  
77 West Jackson Boulevard  
Chicago IL, 60604

Project Chemetco Superfund Site  
Project Number [none]  
Project Manager Betty Lavis

Reported:  
Feb-11-11 12 53

## ANALYSIS CASE NARRATIVE – Chemical Oxygen Demand (COD)

Work order #: 1101011  
Phone #: (312) 353-9467

### General Information

One sample was analyzed for COD on February 8, 2010. All holding times were met.

### Sample Analysis and Results

The samples were analyzed for COD in water using CRL SOP AIG007A, Revision # 0.1 (Reference Method, EPA 410.4). Samples were stored in the refrigerator at all times except when in use.

### Quality Control

All other quality control audits were within CRL limits.



Environmental Protection Agency Region 5  
**Chicago Regional Laboratory**

536 South Clark Street, Chicago, IL 60605  
Phone: (312) 353-8370 Fax: (312) 886-2591

Superfund, US EPA Region 5  
77 West Jackson Boulevard  
Chicago IL, 60604

Project Chemetco Superfund Site  
Project Number [none]  
Project Manager Betty Lavis

Reported:  
Feb-11-11 12:53

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
CW-4	1101011-01	Water	Jan-12-11 15:37	Jan-14-11 08:30

**COD by EPA 410.4 (modified)**

**US EPA Region 5 Chicago Regional Laboratory**

CW-4 (1101011-01) Water Sampled: Jan-12-11 15:37 Received: Jan-14-11 08:30

Analyte	Result	Flags / Qualifiers	MDL	Limit	Units	Dilution	Batch	Prepared	Analyzed
Chemical Oxygen Demand	41		4	25	mg/L	1	B102003	Feb-07-11	Feb-08-11

AA 2-11-11  
Anna Aleszczyk, Chemist



Environmental Protection Agency Region 5  
**Chicago Regional Laboratory**

536 South Clark Street, Chicago, IL 60605  
Phone:(312)353-8370 Fax:(312)886-2591

Superfund, US EPA Region 5  
77 West Jackson Boulevard  
Chicago IL, 60604

Project: Chemetco Superfund Site  
Project Number [none]  
Project Manager Betty Lavis

**Reported:**  
Feb-11-11 12:53

**Notes and Definitions**

U Not Detected

NR Not Reported

AA 2-11-11

Anna Aleszczyk, Chemist

Items for Project Manager Review

LabNumber	Analysis	Analyte	Exception
			Default Report (not modified)
			VERSION 6 07 2003
	COD	(Water)	Result calculations based on MDL
	COD	(Water)	Special Units (mg/L)



Environmental Protection Agency Region 5  
**Chicago Regional Laboratory**

536 South Clark Street, Chicago, IL 60605  
Phone: (312) 353-8370 Fax: (312) 886-2591

**WORK ORDER**

Printed: 2/11/2011 11:29:45AM

**1101011**

**US EPA Region 5 Chicago Regional Laboratory**

**Client:** Superfund, US EPA Region 5  
**Project:** Chemetco Superfund Site

**Project Manager:** George Schupp  
**Project Number:** [none]

**Report To:**

Betty Lavis  
Superfund, US EPA Region 5

77 West Jackson Boulevard  
Chicago, IL 60604

Phone: (312) 886-7183  
Fax: (312) 886-6171

Date Due Feb-14-11 15:00 (30 day TAT)

Received By: Robert Snyder

Date Received Jan-14-11 08:30

Logged In By: Robert Snyder

Date Logged In Jan-14-11 11:24

**Samples Received at**

Sample tags/labels Yes  
Seals Intact Yes  
Received on ice Yes  
Paperwork Included Yes

Analysis	Due	TAT	Expires	Comments
<b>1101011-01 CW-4 [Water] Sampled Jan-12-11 15:37 Central</b>				
TKN DA	Feb-14-11 12:00	30	Feb-09-11 15:37	
Ammonia N DA	Feb-14-11 12:00	30	Feb-09-11 15:37	
Solids, TSS	Jan-25-11 12:00	10	Jan-19-11 15:37	
O&G by SPE	Feb-12-11 12:00	28	Feb-09-11 15:37	
COD	Jan-25-11 12:00	10	Feb-09-11 15:37	
BOD	Jan-25-11 12:00	10	Jan-14-11 15:37	



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5 CENTRAL REGIONAL LABORATORY

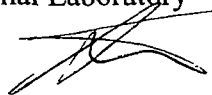
536 SOUTH CLARK STREET

CHICAGO, ILLINOIS 60605

02-11-2011

Date:

Subject: Review of Region 5 Data for **Chemetco**

From: **Stephen Connet, Chemist, TechLaw Inc. / ESAT**  
Contractor to Region 5 Central Regional Laboratory  
Submitted to CRL on 2-8-11 

To:

Attached are the results for: **Chemetco**

CRL data set number(s): **E110101**

Samples analyzed for: **ICP Total Metals in Wipes**

Results are reported for sample designations: **E110101-01 thru -03**



*Sylvia Griffin*

02-11-2011

Data Management Coordinator and Date Received

02-11-2011

Date Transmitted: \_\_\_\_/\_\_\_\_/\_\_\_\_

Please have the U.S. EPA Project Manager/Officer call the CRL Sample Coordinator at 3-7444 for any comments or questions.

Please sign and date this form below and return it with any comments to:

Sylvia Griffin  
Data Management Coordinator  
Region 5 Central Regional Laboratory  
ML-10C

*Ryan M. Lutz* 03/11/2011  
Received by and Date

Comments:

Attached are the results for: **Chemetco**

CRL data set number(s): **E110101**

Samples analyzed for: **ICP Total Metals in Wipes**

Results are reported for sample designations: **E110101-01 thru -03**

Method: 200.7 (ICP Metals)  
Site: Chemetco  
Date: January 25, 2011  
Prepared by: Stephen Connet

TDF: R5-213-059  
TechLaw Job #: 03037.3.13.02.01.B5HB.000.059  
Task Order #: R5-2-213  
Data Set(s): E110101

### NARRATIVE

Three (3) wipe samples from the Chemetco Site were collected on January 11-13, 2011 and were received at CRL on January 14, 2011. The samples were submitted to ESAT for analysis of total metals by ICP. The sample point identifications are on the first page of the LIMS report following this narrative.

The samples were digested following standard CRL 3050B hot block digestion protocols (CRL SOP METALS034) on January 24, 2011 (LIMS digestion batch EA12002). No matrix spike or matrix duplicate were performed. They were analyzed on January 25, 2011 according to CRL SOP METALS004 using the Optima 4300. The data was evaluated using recently evaluated ESAT MDL values. ESAT has been instructed to report samples results to CRQL levels used in ISM01.2.

The following analytes will be addressed in this case narrative:

Al, Ba, Be, Ca, Cr, Co, Cu, Fe, Mg, Mn, Ni, K, Ag, Na, V, Zn

Blanks:	EA12002-BLK1	Co228	-1.21 µg/L
		Cr267	4.95 µg/L
		Ni231	-2.30 µg/L

Blank qualification: For elements where no samples are affected by blank detects (positive or negative), the blank levels are not listed. Sample results to 10 times the absolute blank value are qualified. Blank results bracketing sample results are used for qualification.

CRI/RL Check Soln: Presently no "control" actions are associated with the CRI analyte values determined during the analysis run. The CRI sample was prepared fresh and is at ISM01.2 CRQL levels.

#### LCM1:

LCM1#1:	Fe273	112.4% recovery
	Mg279	111.6% recovery
LCM1#2:	Fe273	111.6% recovery
	Mg279	110.5% recovery

#### LCM2:

LCM2#1:	Ag328	110.6% recovery
LCM2#2:	Ag328	111.6% recovery

#### Blank Spikes:

EA12002-BS1:	Ag328	322.3% recovery
EA12002-BSD1:	Ag328	318.0% recovery

#### Serial Dilution:

EA12002-SRD1:	Cr267, Mg279	No results qualified per SOP
---------------	--------------	------------------------------

  
1-27-11

### **Sample element qualifications:**

For Ba, the sample result for E110101-03 is between the MDL and CRQL. The Ba result for that sample is flagged "J" in LIMS.

For Be, the sample result for E110101-01 is between the MDL and CRQL. The Be result for that sample is flagged "J" in LIMS.

For Cr, Cr was detected in the preparation blank EA12002-BLK1 indicating possible contamination. Cr sample results for E110101-01 thru -03 and EA12002-BLK1 are flagged "K" in LIMS.

For Co, the preparation blank EA12002-BLK1 had reported results less than the negative MDL indicating a possible low bias; Co sample results for E110101-01 thru -03 and EA12002-BLK1 are flagged "L" in LIMS. Also, the sample results for E110101-01 thru -03 are between the MDL and CRQL. The Co results for those samples are flagged "J" in LIMS.

For Fe, LCM1#1 and #2 were greater than the upper ESAT limit indicating a possible high bias. Sample results less than 10,000 ug/L (E110101-01 thru -03) are flagged "K" in LIMS.

For Mg, LCM1#1 and #2 were greater than the upper ESAT limit indicating a possible high bias. Sample results less than 10,000 ug/L (E110101-01 thru -03) are flagged "K" in LIMS. Also, the sample results for E110101-01 thru -03 are between the MDL and CRQL. The Mg results for that samples are flagged "J" in LIMS.

For Ni, the preparation blank EA12002-BLK1 had reported results less than the negative MDL indicating a possible low bias; Ni sample results for E110101-02, -03 and EA12002-BLK1 are flagged "L" in LIMS. Also, the sample results for E110101-01 thru -03 are between the MDL and CRQL. The Ni results for those samples are flagged "J" in LIMS.

For K, the sample results for E110101-01 thru -02 are between the MDL and CRQL. The K results for those samples are flagged "J" in LIMS.

For Ag, LCM2#1 and #2, the blank spike and BSD were greater than the upper ESAT limit indicating a possible high bias. All sample results are below the MDL; no sample results are flagged.

For V, the sample results for E110101-01 thru -02 are between the MDL and CRQL. The V results for those samples are flagged "J" in LIMS.

**All flagged results are considered estimated.**

### **Other comments**

No samples are identified as field duplicates. Sample E110101-03 was identified as a field blank. Al, Ba, Ca, Cr, Co, Cu, Fe, Mg, Mn, Ni, K, Na and Zn were detected in the field blank. ESAT does not qualify sample results for field duplicates or field blanks.

It has been observed that, due to differences in the significant figures used for calculation, RPD values and some matrix spike recoveries calculated by LIMS are not correct. Some of these values are reported by LIMS as being outside QC requirements when they are not. The correct values are included as Excel spreadsheets in the Analytical/Matrix QC Summary Report provided in the data package.



105 W. Madison Street, Suite 900  
Chicago, IL 60602  
(312) 345-8990  
(312) 345-8979 (Fax)  
[www.techlawinc.com](http://www.techlawinc.com)

**WORK ORDER**

Printed: 1/26/2011 7:45:47AM

**E110101**

**TechLaw - ESAT Contract**

**Client:** Superfund, US EPA Region 5  
**Project:** Chemetco

**Project Manager:** James D. Burden  
**Project Number:** [none]

**Report To:**

Chi Tang  
Superfund, US EPA Region 5

77 West Jackson Boulevard  
Chicago, IL 60604

Phone: (312) 353-2310  
Fax: (312) 886-6171

**Date Due:** Feb-14-11 15:00 (30 day TAT)

**Received By:** Paul Little

**Date Received:** Jan-14-11 14:00

**Logged In By:** Stephen Connet

**Date Logged In:** Jan-18-11 09:10

**Samples Received at:** 4.2°C  
**Custody Seals:** Yes  
**Containers Intact:** Yes  
**COC/Labels Agree:** Yes  
**Preservation Confirmed:** Yes

	Due	TAT	Expires	Comments
<b>E110101-01 OS-3 [Wipe] Sampled Jan-11-11 16:31 Central</b>				
Hg Total CVAA (wipe)	Feb-12-11 12:00	28	Feb-08-11 16:31	
Cyanide, Total (wipe)	Feb-14-11 12:00	30	Jan-25-11 16:31	
Metals ICP-MS (wipe)	Feb-14-11 12:00	30	Jan-11-12 16:31	
Metals ICP (wipe)	Feb-14-11 12:00	30	Jan-11-12 16:31	

**E110101-02 OS-4 [Wipe] Sampled Jan-11-11 16:43 Central**

Hg Total CVAA (wipe)	Feb-12-11 12:00	28	Feb-08-11 16:43
Cyanide, Total (wipe)	Feb-14-11 12:00	30	Jan-25-11 16:43
Metals ICP-MS (wipe)	Feb-14-11 12:00	30	Jan-11-12 16:43
Metals ICP (wipe)	Feb-14-11 12:00	30	Jan-11-12 16:43

**E110101-03 OS-FB [Wipe] Sampled Jan-13-11 18:00 Central**

**Field Blank**

Hg Total CVAA (wipe)	Feb-12-11 12:00	28	Feb-10-11 18:00
Cyanide, Total (wipe)	Feb-14-11 12:00	30	Jan-27-11 18:00
Metals ICP-MS (wipe)	Feb-14-11 12:00	30	Jan-13-12 18:00
Metals ICP (wipe)	Feb-14-11 12:00	30	Jan-13-12 18:00

Reviewed By

Date

1-26-11


Superfund, US EPA Region 5  
77 West Jackson Boulevard  
Chicago IL, 60604

Project: Chemetco  
Project Number: [none]  
Project Manager: Chi Tang

Reported:  
Jan-28-11 14:18

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
OS-3	E110101-01	Wipe	Jan-11-11 16:31	Jan-14-11 14:00
OS-4	E110101-02	Wipe	Jan-11-11 16:43	Jan-14-11 14:00
OS-FB	E110101-03	Wipe	Jan-13-11 18:00	Jan-14-11 14:00

  
Stephen Connet, Chemist

1-28-11

Report Name: E110101 FINAL Jan 28 11 1418

Page 1 of 4

Superfund, US EPA Region 5  
77 West Jackson Boulevard  
Chicago IL, 60604

Project: Chemetco  
Project Number: [none]  
Project Manager: Chi Tang

Reported:  
Jan-28-11 14 18

## Metals on Wipes by ICP

### TechLaw - ESAT Contract

OS-3 (E110101-01) Wipe Sampled: Jan-11-11 16:31 Received: Jan-14-11 14:00

Analyte	Result	Flags / Qualifiers	MDL	Limit	Units	Dilution	Batch	Prepared	Analyzed
Aluminum	171		1.80	10.0	ug/wipe	1	EA12002	Jan-24-11	Jan-25-11
Barium	13.7		0.05	10.0	"	"	"	"	"
Beryllium	0.01	J	0.01	0.25	"	"	"	"	"
Calcium	1580		1.30	250	"	"	"	"	"
Chromium	1.55	K	0.02	0.50	"	"	"	"	"
Cobalt	0.30	J, L	0.02	2.50	"	"	"	"	"
Copper	11.8		0.10	1.25	"	"	"	"	"
Iron	374	K	1.00	5.00	"	"	"	"	"
Magnesium	232	J, K	1.25	250	"	"	"	"	"
Manganese	11.4		0.02	0.75	"	"	"	"	"
Nickel	1.20	J	0.10	2.00	"	"	"	"	"
Potassium	123	J	6.25	250	"	"	"	"	"
Sodium	U		0.10	0.50	"	"	"	"	"
Sodium	1210		2.50	250	"	"	"	"	"
Vanadium	0.49	J	0.08	2.50	"	"	"	"	"
Zinc	73.6		0.25	3.00	"	"	"	"	"

OS-4 (E110101-02) Wipe Sampled: Jan-11-11 16:43 Received: Jan-14-11 14:00

Analyte	Result	Flags / Qualifiers	MDL	Limit	Units	Dilution	Batch	Prepared	Analyzed
Aluminum	121		1.80	10.0	ug/wipe	1	EA12002	Jan-24-11	Jan-25-11
Barium	10.6		0.05	10.0	"	"	"	"	"
Beryllium	U		0.01	0.25	"	"	"	"	"
Calcium	1400		1.30	250	"	"	"	"	"
Chromium	1.18	K	0.02	0.50	"	"	"	"	"
Cobalt	0.28	J, L	0.02	2.50	"	"	"	"	"
Copper	9.02		0.10	1.25	"	"	"	"	"
Iron	259	K	1.00	5.00	"	"	"	"	"
Magnesium	224	J, K	1.25	250	"	"	"	"	"
Manganese	8.78		0.02	0.75	"	"	"	"	"
Nickel	0.94	J, L	0.10	2.00	"	"	"	"	"
Potassium	67.6	J	6.25	250	"	"	"	"	"
Silver	U		0.10	0.50	"	"	"	"	"
Sodium	1080		2.50	250	"	"	"	"	"

Stephen Connet, Chemist

1-28-11

Report Name: E110101 FINAL Jan 28 11 1418

Page 2 of 4

Superfund, US EPA Region 5  
 77 West Jackson Boulevard  
 Chicago IL, 60604

Project: Chemetco  
 Project Number: [none]  
 Project Manager: Chi Tang

Reported:  
 Jan-28-11 14:18

**Metals on Wipes by ICP**  
**TechLaw - ESAT Contract**

OS-4 (E110101-02) Wipe Sampled: Jan-11-11 16:43 Received: Jan-14-11 14:00

Analyte	Result	Flags / Qualifiers	MDL	Limit	Units	Dilution	Batch	Prepared	Analyzed
Vanadium	0.36	J	0.08	2.50	ug/wipe	1	EA12002	Jan-24-11	Jan-25-11
Zinc	42.3		0.25	3.00	"	"	"	"	"

OS-FB (E110101-03) Wipe Sampled: Jan-13-11 18:00 Received: Jan-14-11 14:00

Analyte	Result	Flags / Qualifiers	MDL	Limit	Units	Dilution	Batch	Prepared	Analyzed
Aluminum	20.9		1.80	10.0	ug/wipe	1	EA12002	Jan-24-11	Jan-25-11
Barium	1.30	J	0.05	10.0	"	"	"	"	"
Beryllium	U		0.01	0.25	"	"	"	"	"
Calcium	388		1.30	250	"	"	"	"	"
Chromium	0.51	K	0.02	0.50	"	"	"	"	"
Cobalt	0.08	J, L	0.02	2.50	"	"	"	"	"
Copper	2.59		0.10	1.25	"	"	"	"	"
Iron	38.3	K	1.00	5.00	"	"	"	"	"
Magnesium	54.2	J, K	1.25	250	"	"	"	"	"
Manganese	1.72		0.02	0.75	"	"	"	"	"
Nickel	0.29	J, L	0.10	2.00	"	"	"	"	"
Potassium	376		6.25	250	"	"	"	"	"
Silver	U		0.10	0.50	"	"	"	"	"
Sodium	1010		2.50	250	"	"	"	"	"
Vanadium	U		0.08	2.50	"	"	"	"	"
Zinc	24.3		0.25	3.00	"	"	"	"	"

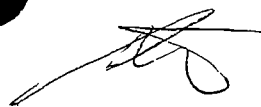
Superfund, US EPA Region 5  
77 West Jackson Boulevard  
Chicago IL, 60604

Project: Chemetco  
Project Number: [none]  
Project Manager: Chi Tang

**Reported:**  
Jan-28-11 14:18

### Notes and Definitions

- L The identification of the analyte is acceptable; the reported value may be biased low. The actual value is expected to be greater than the reported value.
- K The identification of the analyte is acceptable; the reported value may be biased high. The actual value is expected to be less than the reported value.
- J The identification of the analyte is acceptable; the reported value is an estimate.
- U Not Detected
- NR Not Reported

 1-28-11  
\_\_\_\_\_  
Stephen Connet, Chemist

Report Name: E110101 FINAL Jan 28 11 1418

Page 4 of 4





UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5 CENTRAL REGIONAL LABORATORY

536 SOUTH CLARK STREET

CHICAGO, ILLINOIS 60605

02-11-2011

Date:

Subject: Review of Region 5 Data for **Chemetco**

From: Linda Moore, Chemist, TechLaw / ESAT  
Contractor to Region 5 Central Regional Laboratory  
Submitted to CRL on 2/9/11 *lmm*

To:

Attached are the results for: **Chemetco**

CRL data set number: **E110101**

Samples analyzed for: **Total Cyanide in Wipes**

Results are reported for sample designations: **E1100101-01 thru -03**

02-11-2011

*Sylvia Griffin*

Data Management Coordinator and Date Received

02-11-2011

Date Transmitted: \_\_\_\_/\_\_\_\_/\_\_\_\_

Please have the U.S. EPA Project Manager/Officer call the CRL Sample Coordinator at 3-7444 for any comments or questions.

Please sign and date this form below and return it with any comments to:

Sylvia Griffin  
Data Management Coordinator  
Region 5 Central Regional Laboratory  
ML-10C

*Ryan M. Lutz* 03/11/2011  
Received by and Date

Comments:

Attached are the results for: **Chemetco**

CRL data set numbers: **E110101**

Samples analyzed for: **Total Cyanide in Wipes**

Results are reported for sample designations: **E110101-01 thru -03**

**Method: 335. 2 NS CRL SOP AIG025B**  
**Site: Chemetco**  
**Date: January 31, 2011**  
**Prepared by: Linda Moore**

**TDF: R5-213-059**  
**TechLaw Job #: 03037.3.13.02.01.B5B.000.059**  
**Task Order #: R5-2-213**  
**Data Set: E110101**

### **NARRATIVE**

Three (3) wipe samples from the Chemetco site were collected on January 11-13, 2011 and were received at CRL on January 14, 2011. The samples were submitted to ESAT for analysis of total cyanide. All samples were received properly preserved. The sample point identifications are on the first page of the LIMS report following this narrative.

Sulfamic acid was added to all samples and associated QC samples prior to distillation to eliminate potential nitrate and nitrite interferences.

Samples were distilled for total cyanide on January 21, 2011 (LIMS Batch EA12001) using the Easy-Still Midi Distillation method according to CRL SOP AIG025B (Rev 2, March 2010). No matrix spike or matrix duplicate were performed; a blank spike (BS1) and blank spike duplicate (BSD1) were used to monitor analysis precision. Samples were analyzed on the EST AquaKem Discrete Analyzer on January 24, 2011. All samples were analyzed within the holding time limit.

Sample E110101-03 was identified as a field blank; no contamination was present in the sample. ESAT does not qualify for field QC.

The result for sample E110101-01 was greater than the method detection limit (MDL) but below the reporting limit; it is flagged "J" in LIMS.

QC reports which include analytical and matrix QC are provided as Excel sheets. All results are acceptable. It has been observed that due to differences in significant figures used for calculation, RPD values and some matrix spike recoveries calculated by LIMS are not correct. The correct values are included as Excel spreadsheets in the analytical/matrix QC summary report provided in the data package.

000005

*Linda Moore, 2/8/11*



105 W. Madison Street, Suite 900  
Chicago, IL 60602  
(312) 345-8990  
(312) 345-8979 (Fax)  
[www.techlawinc.com](http://www.techlawinc.com)

**WORK ORDER**

Printed: 1/31/2011 2:06:23PM

**E110101**

**TechLaw - ESAT Contract**

**Client:** Superfund, US EPA Region 5  
**Project:** Chemetco

**Project Manager:** James D. Burden  
**Project Number:** [none]

**Report To:**

Chi Tang  
Superfund, US EPA Region 5

77 West Jackson Boulevard  
Chicago, IL 60604

Phone: (312) 353-2310  
Fax: (312) 886-6171

**Date Due:** Feb-14-11 15:00 (30 day TAT)

**Received By:** Paul Little

**Date Received:** Jan-14-11 14:00

**Logged In By:** Stephen Connet

**Date Logged In:** Jan-18-11 09:10

**Samples Received at** 4.2°C  
**Custody Seals** Yes  
**Containers Intact** Yes  
**COC/Labels Agree** Yes  
**Preservation Confirmed** Yes

Analysis	Due	TAT	Expires	Comments
----------	-----	-----	---------	----------

**E110101-01 OS-3 [Wipe] Sampled Jan-11-11 16:31 Central**

Hg Total CVAA (wipe)	Feb-12-11 12:00	28	Feb-08-11 16:31
Cyanide, Total (wipe)	Feb-14-11 12:00	30	Jan-25-11 16:31
Metals ICP-MS (wipe)	Feb-14-11 12:00	30	Jan-11-12 16:31
Metals ICP (wipe)	Feb-14-11 12:00	30	Jan-11-12 16:31

**E110101-02 OS-4 [Wipe] Sampled Jan-11-11 16:43 Central**

Hg Total CVAA (wipe)	Feb-12-11 12:00	28	Feb-08-11 16:43
Cyanide, Total (wipe)	Feb-14-11 12:00	30	Jan-25-11 16:43
Metals ICP-MS (wipe)	Feb-14-11 12:00	30	Jan-11-12 16:43
Metals ICP (wipe)	Feb-14-11 12:00	30	Jan-11-12 16:43

**E110101-03 OS-FB [Wipe] Sampled Jan-13-11 18:00 Central**

**Field Blank**

Hg Total CVAA (wipe)	Feb-12-11 12:00	28	Feb-10-11 18:00
Cyanide, Total (wipe)	Feb-14-11 12:00	30	Jan-27-11 18:00
Metals ICP-MS (wipe)	Feb-14-11 12:00	30	Jan-13-12 18:00
Metals ICP (wipe)	Feb-14-11 12:00	30	Jan-13-12 18:00

Reviewed By

Date

000003

Page 1 of 1

Superfund, US EPA Region 5  
77 West Jackson Boulevard  
Chicago IL, 60604

Project: Chemetco  
Project Number: [none]  
Project Manager: Chi Tang

**Reported:**  
Feb-08-11 14:01

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
OS-3	E110101-01	Wipe	Jan-11-11 16:31	Jan-14-11 14:00
OS-4	E110101-02	Wipe	Jan-11-11 16:43	Jan-14-11 14:00
OS-FB	E110101-03	Wipe	Jan-13-11 18:00	Jan-14-11 14:00

Linda Moore 2/8/11  
Linda Moore, Chemist

Report Name: E110101 FINAL Feb 08 11 1401

000006

Page 1 of 3

Superfund, US EPA Region 5  
77 West Jackson Boulevard  
Chicago IL, 60604

Project: Chemetco  
Project Number: [none]  
Project Manager: Chi Tang

Reported:  
Feb-08-11 14:01

**Automated Colorimetric Analyses**  
**TechLaw - ESAT Contract**

OS-3 (E110101-01) Wipe Sampled: Jan-11-11 16:31 Received: Jan-14-11 14:00

Analyte	Result	Flags / Qualifiers	MDL	Limit	Units	Dilution	Batch	Prepared	Analyzed
Cyanide (total)	0.16	J	0.15	0.50	ug/wipe	1	EA12001	Jan-21-11	Jan-24-11

OS-4 (E110101-02) Wipe Sampled: Jan-11-11 16:43 Received: Jan-14-11 14:00

Analyte	Result	Flags / Qualifiers	MDL	Limit	Units	Dilution	Batch	Prepared	Analyzed
Cyanide (total)	U		0.15	0.50	ug/wipe	1	EA12001	Jan-21-11	Jan-24-11

OS-FB (E110101-03) Wipe Sampled: Jan-13-11 18:00 Received: Jan-14-11 14:00

Analyte	Result	Flags / Qualifiers	MDL	Limit	Units	Dilution	Batch	Prepared	Analyzed
Cyanide (total)	U		0.15	0.50	ug/wipe	1	EA12001	Jan-21-11	Jan-24-11

Linda G. Moore 2/8/11  
Linda Moore, Chemist

Report Name: E110101 FINAL Feb 08 11 1401

Page 2 of 3

000007



**TechLaw**  
*Quality & Integrity*

TechLaw Inc ESAT Region 5  
536 South Clark Street, Suite 734  
Chicago, IL 60605  
(312) 353-2964  
(312) 353-8307 (Fax)  
[www.techlawinc.com](http://www.techlawinc.com)

Superfund, US EPA Region 5  
77 West Jackson Boulevard  
Chicago IL, 60604

Project: Chemetco  
Project Number: [none]  
Project Manager: Chi Tang

**Reported:**  
Feb-08-11 14:01

### Notes and Definitions

J The identification of the analyte is acceptable; the reported value is an estimate.  
U Not Detected  
NR Not Reported

Linda Moore  
Linda Moore, Chemist

2/8/11

Report Name: E110101 FINAL Feb 08 11 1401

000008

Page 3 of 3



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5 CENTRAL REGIONAL LABORATORY

536 SOUTH CLARK STREET

CHICAGO, ILLINOIS 60605

02-22-2011

Date:

Subject: Review of Region 5 Data for **Chemetco**

From: **Linda Moore, Chemist, TechLaw Inc. / ESAT**  
Contractor to Region 5 Central Regional Laboratory  
Submitted to CRL on *2/14/11 lpm*

To:

Attached are the results for: **Chemetco**

CRL data set number(s): **E110101**

Samples analyzed for: **Mercury in Wipes**

Results are reported for sample designations: **E110101-01 thru -03**



*Sylvia Griffin*

02-22-2011

Data Management Coordinator and Date Received

02-22-2011

Date Transmitted: \_\_\_\_/\_\_\_\_/\_\_\_\_

Please have the U.S. EPA Project Manager/Officer call the CRL Sample Coordinator at 3-7444 for any comments or questions.

Please sign and date this form below and return it with any comments to:

Sylvia Griffin  
Data Management Coordinator  
Region 5 Central Regional Laboratory  
ML-10C

*Ryan M. Lutz* 03/11/2011  
Received by and Date

Comments:

Attached are the results for: **Chemetco**

CRL data set number(s): **E110101**

Samples analyzed for: **Mercury in Wipes**

Results are reported for sample designations: **E110101-01 thru -03**

**Method: 245.5 (Mercury in soil/wipe)**

**TDF: R5-213-059**

**Site: Chemetco**

**TechLaw Job #: 03037.3.13.02.01.B5HB.000.059**

**Date: February 7, 2011**

**Task Order #: R5-2-213**

**Prepared by: Linda Moore**

**Data Set(s): E110101**

### **NARRATIVE**

Three (3) wipe samples from the Chemetco Site were collected on January 11-13, 2011 and were received at CRL on January 14, 2011. The samples were submitted to ESAT for analysis of mercury. The sample point identifications are on the first page of the LIMS report following this narrative.

Samples were batched in LIMS as EA12601 (E110101-01 thru -03). The batch was digested on January 26, 2011; hydroxylamine hydrochloride was added on January 27, 2011 and analysis was completed using a PSA Millenium CVAA. All samples were analyzed within the holding time limit.

For the analysis, a blank spike and blank spike duplicate were used for batch control purposes. Both were acceptable. The Hg sample results for E110101-01 and -03 are between the MDL and CRQL. The Hg results for those samples are flagged "J" in LIMS.

No samples are identified as field duplicates. Sample E110101-03 was identified as a field blank. Hg was detected in the field blank. ESAT does not qualify sample results for field duplicates or field blanks.

QC reports which include analytical QC are provided as Excel spreadsheets. It has been observed that, due to differences in the significant figures used for calculation and rounding of reported values, RPD values and some matrix spike recoveries calculated by LIMS are not correct. The correct values are included as an Excel spreadsheet in the Analytical/Matrix QC Summary Report provided in the data package.

000005

*Linda Moore 2/11/11*

**WORK ORDER**

Printed: 1/31/2011 2:06:23PM

**E110101**

**TechLaw - ESAT Contract**

**Client:** Superfund, US EPA Region 5  
**Project:** Chemetco

**Project Manager:** James D. Burden  
**Project Number:** [none]

**Report To:**

Chi Tang  
Superfund, US EPA Region 5

77 West Jackson Boulevard  
Chicago, IL 60604

Phone: (312) 353-2310  
Fax: (312) 886-6171

Date Due: Feb-14-11 15:00 (30 day TAT)

Received By: Paul Little

Date Received: Jan-14-11 14:00

Logged In By: Stephen Connet

Date Logged In: Jan-18-11 09:10

Samples Received at 4.2°C  
Custody Seals Yes  
Containers Intact Yes  
COC/Labels Agree Yes  
Preservation Confirmed Yes

Analysis	Due	TAT	Expires	Comments
----------	-----	-----	---------	----------

**E110101-01 OS-3 [Wipe] Sampled Jan-11-11 16:31 Central**

Hg Total CVAA (wipe)	Feb-12-11 12:00	28	Feb-08-11 16:31
Cyanide, Total (wipe)	Feb-14-11 12:00	30	Jan-25-11 16:31
Metals ICP-MS (wipe)	Feb-14-11 12:00	30	Jan-11-12 16:31
Metals ICP (wipe)	Feb-14-11 12:00	30	Jan-11-12 16:31

**E110101-02 OS-4 [Wipe] Sampled Jan-11-11 16:43 Central**

Hg Total CVAA (wipe)	Feb-12-11 12:00	28	Feb-08-11 16:43
Cyanide, Total (wipe)	Feb-14-11 12:00	30	Jan-25-11 16:43
Metals ICP-MS (wipe)	Feb-14-11 12:00	30	Jan-11-12 16:43
Metals ICP (wipe)	Feb-14-11 12:00	30	Jan-11-12 16:43

**E110101-03 OS-FB [Wipe] Sampled Jan-13-11 18:00 Central**

Field Blank

Hg Total CVAA (wipe)	Feb-12-11 12:00	28	Feb-10-11 18:00
Cyanide, Total (wipe)	Feb-14-11 12:00	30	Jan-27-11 18:00
Metals ICP-MS (wipe)	Feb-14-11 12:00	30	Jan-13-12 18:00
Metals ICP (wipe)	Feb-14-11 12:00	30	Jan-13-12 18:00

*Linda G Moore*

Reviewed By

*1/31/2011*

Date

000003

Page 1 of 1

Superfund, US EPA Region 5  
77 West Jackson Boulevard  
Chicago IL, 60604

Project: Chemetco  
Project Number: [none]  
Project Manager: Chi Tang

Reported:  
Feb-11-11 13:57

## ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
OS-3	E110101-01	Wipe	Jan-11-11 16:31	Jan-14-11 14:00
OS-4	E110101-02	Wipe	Jan-11-11 16:43	Jan-14-11 14:00
OS-FB	E110101-03	Wipe	Jan-13-11 18:00	Jan-14-11 14:00

Linda G Moore 2/11/11  
Linda Moore, Chemist

Report Name: E110101 FINAL Feb 11 11 13:57

000006

Page 1 of 3

Superfund, US EPA Region 5  
 77 West Jackson Boulevard  
 Chicago IL, 60604

Project: Chemetco  
 Project Number: [none]  
 Project Manager: Chi Tang

Reported:  
 Feb-11-11 13:57

## Cold Vapor Analyses

### TechLaw - ESAT Contract

OS-3 (E110101-01) Wipe Sampled: Jan-11-11 16:31 Received: Jan-14-11 14:00

Analyte	Result	Flags / Qualifiers	MDL	Limit	Units	Dilution	Batch	Prepared	Analyzed
Mercury	0.004	J	0.002	0.010	ug/wipe	1	EA12601	Jan-26-11	Jan-27-11

OS-4 (E110101-02) Wipe Sampled: Jan-11-11 16:43 Received: Jan-14-11 14:00

Analyte	Result	Flags / Qualifiers	MDL	Limit	Units	Dilution	Batch	Prepared	Analyzed
Mercury	0.005	J	0.002	0.010	ug/wipe	1	EA12601	Jan-26-11	Jan-27-11

OS-FB (E110101-03) Wipe Sampled: Jan-13-11 18:00 Received: Jan-14-11 14:00

Analyte	Result	Flags / Qualifiers	MDL	Limit	Units	Dilution	Batch	Prepared	Analyzed
Mercury	0.004	J	0.002	0.010	ug/wipe	1	EA12601	Jan-26-11	Jan-27-11

*Linda Q. Moore* 2/11/11  
 Linda Moore, Chemist

Report Name: E110101 FINAL Feb 11 11 1357

000007 - Page 2 of 3



**TechLaw**  
*Quality & Integrity*

TechLaw Inc ESAT Region 5  
536 South Clark Street, Suite 734  
Chicago, IL 60605  
(312) 353-2964  
(312) 353-8307 (Fax)  
[www.techlawinc.com](http://www.techlawinc.com)

Superfund, US EPA Region 5  
77 West Jackson Boulevard  
Chicago IL, 60604

Project: Chemetco  
Project Number: [none]  
Project Manager: Chi Tang

**Reported:**  
Feb-11-11 13:57

### Notes and Definitions

J The identification of the analyte is acceptable; the reported value is an estimate.

U Not Detected

NR Not Reported

Linda Moore 2/11/11  
Linda Moore, Chemist

Report Name: E110101 FINAL Feb 11 11 13:57

000008 Page 3 of 3